BACKGROUND OF INVENTION

Rock climbing has, inherently, always been a dangerous activity. The proper use of safety equipment significantly reduces the chance of injury when scaling a rock face. Equipment such as a harness, rope and carabiners are commonly used by most climbers.

In order for a climber to be protected from a fall, he or she must wear a harness which has a climbing rope tied to it. As the climber ascends up the rock-face, he places a carabiner into a "hanger" which has been bolted or glued into the rock at regular intervals. A hanger is typically a formed piece of metal with a hole in it which allows a carabiner to be clipped into it. The carabiner which is clipped into this hanger typically has a high strength fabric loop attached to it which is then attached to another carabiner. This fabric loop is typically known as a "sling". The two carabiners in combination with the sling are typically known as a "quick draw". Once the quick draw is securely installed into the hanger, the climber then places the attached rope into the lower carabiner of the quickdraw. The rope is also attached to a person on the ground who is also wearing a harness and a device which controls the amount and the rate at which the climber receives the rope. In the event of a fall, the person on the ground would stop the rope from feeding through their device, consequently preventing the climber from hitting the ground.

Before a climber can truly be safe on a climb, he must have his quickdraw and attached rope placed into the first hanger of a climb before ascending. Therefore a device was needed to place that quickdraw into that first hanger and in some instances the ability to remove quick draws from a hanger. U.S. Pat 5,235,248 to AmRhein describes a device which is capable of accomplishing these tasks. Although effective, this device is relatively inefficient, large and somewhat cumbersome with it's moving parts.

SUMMARY OF THE INVENTION

In accordance with one embodiment of the present invention, it is an object of the present invention to provide a device and method which is able to install a quick draw into a hanger which is beyond the reach of the user.

It is another object of the present invention to provide a device and method for removing an installed quickdraw from a hanger which is beyond the reach of the user.

It is yet another object of the present invention to provide a device which securely holds a hand held brush at various angles for the removal of debris from climbing holds which are beyond the reach of the user.

BRIEF DESCRIPTION OF DRAWINGS

FIG. **1** is a frontal perspective view of the present invention.
FIG. **2** is rear perspective view of the present invention.
FIG. **3A** is a frontal view of the present invention supporting a carabiner with it's opening oriented to the right.
FIG. **3B** is a frontal view of the present invention supporting a carabiner with it's opening oriented to the left.
FIG. **4A** is a cross sectional side view of the present invention holding a brush at a diagonal angle.
FIG. **4B** is a cross sectional side view of the present invention holding a brush at a near vertical angle.
FIG. **4C** is a cross sectional rear view of the present invention holding a brush at a horizontal angle.
FIG. **5A** is a perspective side view of the present invention inserting a quick draw into a hanger.
FIG. **5B** is a perspective side view of a quickdraw disengaging from the present invention once it is installed into a hanger.

FIG. **6A** is of a frontal view of the first step of the present invention removing an installed quick draw.

FIG. **6B** is of a frontal view of the second step of the present invention removing an installed quick draw.

FIG. **6C** is of a frontal view of the third step of the present invention removing an installed quick draw.

FIG. **7A** is a side view of the first step of the present invention removing an installed quick draw.

FIG. **7B** is a side view of the second step of the present invention removing an installed quick draw.

FIG. **7C** is a side view of the third step of the present invention removing an installed quick draw.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to FIG. **1** a device **10** is shown. The device **10** is used to install a carabiner **26** into a hanger **34** as shown in FIG. **5a** and **5b** as well as remove an installed carabiner **26** which is out of reach for the user as shown in FIG. **6a**, **6b**, **6c**, **7a**, **7b** and **7c**. The device **10** is also used to securely hold a handheld brush **30** at various angles for removing dust and debris from climbing holds as shown in FIG. **4a**, **4b** and **4c**.

The present invention **10** is comprised of a main body section **20** with a substantially flat rectangular face. The main body section **20** is internally threaded which facilitates the coupling of an extension device **29** such as a broom handle or telescopic painters pole. The substantially flat rectangular face is comprised of a top protruding member **11**, a bottom protruding member **12** and a protruding bolt with an extra wide head **18** in between the top protruding member **11** and the bottom protruding member **12**. The top protruding member **11** has two shallow grooves **13** and **14** which are at opposing angles to one another as shown in FIG. **1** and FIG. **2**. The bottom protruding member **12** has two shallow grooves **15** and **16** which are at opposing angles to one another as shown in FIG. **1**. A conical sleeve **19** is securely placed onto the protruding bolt **18** as shown in FIG. **1**. A hole **24** is drilled at an downward diagonal angle near the top rear of the main

body section **20** until it creates another hole **25** on the substantially rectangular face as shown in FIG. **1** and FIG. **2**. The passageway created, partially intersects with the threaded area of the main body section **20** as shown in FIG. **4a**.
A hole **23** is drilled at a near vertical downward angle near the top rear of the main body section **20** until it creates another hole **31** at the bottom rear of the main body section **20**. The passageway created, partially intersects with the threaded area of the main body section **20** as shown in FIG. **4b**. The hole **23** also partially intersects with the adjacent hole **24**. A hole **21** is drilled at a horizontal angle on the side of the main body section **20** until it creates another hole **22** on the opposite side of the main body section **20**. The passageway created, partially intersects with the threaded area of the main body section **20** as shown in FIG. **4c**. A hole **17** is drilled horizontally near the top of the main body section which facilitates the addition of a cord utility loop as shown in Fig.**1** and Fig. **2**.

OPERATION

In order to install a carabiner **26** onto a hanger **34**, the device **10** must first be coupled to some form of extension device **29** such as a broom handle or telescopic painter's pole. A carabiner **26** must then be loaded into the device **10**. The spring-loaded gate **27** of the carabiner **26** is placed in between the top protruding member **11** and the protruding bolt **18**. The bottom of the carabiner **33** is placed in between the protruding bolt **18** and the bottom protruding member **12**. In this orientation, the spring-loaded gate **27** of the carabiner **26** is pressed into the groove **14** of the top protruding member **11**, while the bottom of the carabiner **33** is pressed into the groove **16** of the bottom protruding member **12** as shown in FIG. **3a**. It is also possible to load the device **10** with a carabiner **26** facing the opposite direction. The spring-loaded gate **27** of the carabiner **26** is placed in between the top protruding member **11** and the protruding bolt **18**. The bottom of the carabiner **33** is placed in between the protruding bolt **18** and the lower protruding member **12**. In this orientation, the spring-loaded gate **27** of the carabiner **26** is pressed into the groove **13** of the top protruding member **11**, while the bottom of the carabiner **33** is pressed into the groove **15** of the bottom protruding member **12** as shown in FIG. **3b**.

The user would then raise the device **10** with a loaded carabiner **26** up to a hanger **34** and then place it within the hanger **34** as shown in FIG. **5a**. The user would then pull the device **10** away from the hanger **34**. This action would cause the carabiner **26** to disengage from the device **10** while at the same time causing the spring loaded gate **27** of the carabiner **26** to close while on the hanger **34** as shown in FIG. **5b**. It is also possible to install a carabiner **26** with its opening oriented in the opposite direction.

In order to remove an installed carabiner **26**, the user must first align the conical sleeve **19** on the protruding bolt **18** along the inside of the spring-loaded gate **27**, just above it's pivot point **32** as shown in FIG. **6a** and FIG. **7a**. The user must then lift the carabiner **26** at an upward angle using the protruding bolt **18**. The carabiner **26** is lifted until the spring-loaded gate **27** is parallel with the edge of the top protruding member **11** as shown in FIG. **6b**. It is at this point that the spring-loaded gate **27** slides down the conical sleeve **19** and rests directly underneath the top protruding member **11** as shown in FIG. **7b**. The user then pulls the device **10** down, thereby trapping the spring-loaded gate **27** underneath the top protruding member **11** and causing it to open while at the same time, the sling **28** is pushed aside as shown in FIG. **6c**. When the bottom of the carabiner **33** rises above the edge of the bottom protruding member **12**, the carabiner **26** straightens itself into a vertical orientation directly above the bottom protruding member **12** as shown in FIG. **7c**. The user then releases the downward tension exerted on the carabiner **26**. The spring mechanism within the gate **27** presses the bottom of the carabiner **33** into the groove **16** of the bottom protruding member **12** while at the same time it is pressing the gate **27** into the groove **14** of the top protruding member **11** as shown in FIG. **3a**. With the carabiner **26** supported and the spring-loaded gate **27** held open, the user can now remove the carabiner **26** from the hanger **34**. It should be noted that the device **10** can remove an installed carabiner **26** facing the opposite direction as well.

In order to securely attach a handheld brush **30** at a diagonal angle to the device **10**, the user must first insert the handheld brush **30** into the hole **24** with the end of the handheld brush **30** protruding from the hole **25** located on the rectangular face. The user then threads the extension device **29** into the device **10** until it binds the handheld brush **30** against the top corner of the threaded section of the device **10** as shown in FIG. **4a**.

In order to securely attach a handheld brush **30** at a near vertical angle to the device **10**, the user must first insert the handheld brush **30** into the hole **23** with the end of the handheld brush **30** protruding from the hole **31** located at the bottom rear of the device **10**. The user then threads the extension device **29** into the device **10** until it binds the handheld brush **30** against the inner wall of the device **10** as shown in FIG. **4b**.

In order to securely attach a handheld brush **30** at a horizontal angle to the device 10, the user must first insert the handheld brush **30** into the hole **22** with the end of the handheld brush **30** protruding from the hole **21** located on the opposite side of the device **10**. The user then threads the extension device **29** into the device **10** until it binds the handheld brush **30** against the top of the threaded section of the device **10** as shown in FIG. **4c**.

The invention is not limited by the embodiments descried above which are presented as examples only but can be modified in various ways within the scope of protection defined by the appended patent claims.